



Tool Building: Manufacturing Communities Ecosystem Metrics (MCEM) Project Statement

Introduction: The Goals of the MCEM Tool

Manufacturing has a strong and positive ripple effect on local and regional economic development. Recent economic trends, coupled with an influx of federal investments into American manufacturing, have led to a boom in public and private spending on manufacturing across many defense and economically critical industries, especially in place-based initiatives aimed at more strategic deployment of those investments.¹ Based on a consistent feedback from regional manufacturing community consortia leaders and other recent reports², public and private stakeholders who make up these regional communities want to build and maintain thriving manufacturing ecosystems that maximize the impact of federal and other manufacturing related investments; thus they need a tool and playbook that can help them elucidate the major component parts, relationships, and interventions that drive success in their regional manufacturing sector.

That is why AMCC, NIST MEP and many other stakeholders have begun this MCEM tool building process organized around [6 key pillars](#) (1. Workforce and Training; 2. Research and Innovation; 3. Infrastructure and Site Development; 4. Supply Chain Support; 5. Trade and International Investment; and 6. Operational Improvement and Capital Access) of a thriving regional manufacturing ecosystem. This future self assessment Tool, accompanied by a set of procedures, analyses and use cases (or “Playbook”) on how the Tool can be used, will provide regional stakeholders with better actionable information to align regional stakeholder interests and incentives. The MCEM Tool seeks to enable communities to design and implement interventions that strengthen each pillar of their manufacturing ecosystem, benefiting manufacturers and manufacturing communities as a whole. With use over time and improving open-source data collection and management, the MCEM Tool will not only help each individual community identify, self assess, and leverage their unique assets more productively, it will also likely reveal increasingly better best practices to improve manufacturing ecosystems across the nation.

This Tool will not only be valuable to public and private stakeholders who make up these regional communities³, but also serve other constituent stakeholders as well as out-of-area domestic manufacturers and suppliers and those providing catalytic interventions like investors and federal government agencies. This project takes inspiration from the [US Cluster Mapping project](#), and will allow for both regional and cluster representations of manufacturing ecosystem activity, where specific nodes of activity define the manufacturing ecosystem cluster. The project looks to partner with and/or leverage federal investments under way in the development of related tools. For example, EDA is helping to develop the [Economic Development Capacity Index \(EDCI\)](#) which brings together 53 indicators across five major capacity areas: Financial, Human Capital, Industry Composition, Infrastructure, Institutions and Partnerships.

Tasks and Objectives: How will the MCEM Tool help stakeholders achieve objectives?

The MCEM Tool will be an online platform that incorporates an evolving, open-access set of open-source metrics for public and private manufacturing community stakeholders. The ongoing tasks involved in developing this tool are outlined below. Tasks 1 and 2 are well-underway, and the MCEM tool seeks additional participation from regions and manufacturing ecosystems, as well as support from designers,

¹ Such as DOD’s [DMCSP](#), EDA’s [BBBRC](#), [Good Jobs Challenge](#) and [Tech Hubs](#), [NSF Engines](#) etc.

² [AMCC Roadshow visits](#)

³ manufacturing firms, universities, economic development organizations, amongst others

researchers, and developers to realize the first version of the MCEM Tool. The Tool will also require a Playbook that will help stakeholders use the MCEM Tool to help a wide range of uses.

1. Identify the major ecosystem stakeholders, project activities, and programs (the component parts) within each regional manufacturing ecosystem
2. Identify how best to measure each of those component parts and the ecosystem as a whole
3. Identify gaps in how to measure the component parts and the ecosystem as a whole
4. Identify best practices for producing better measures and target outcomes across manufacturing ecosystems

Following the completion of these tasks and the initial prototype of the tool, the MCEM tool will work with regions to implement the tool and:

5. Identify unique regional assets to leverage, and how to measure the value of such assets.
6. Identify targets and interventions most likely to improve performance of the component parts and the ecosystem as a whole.

The MCEM stakeholder group recently created the chart below to help the project and stakeholders visualize the type of metrics we hope will help regional and other stakeholders measure the strength of their manufacturing ecosystem and improve their interventions.

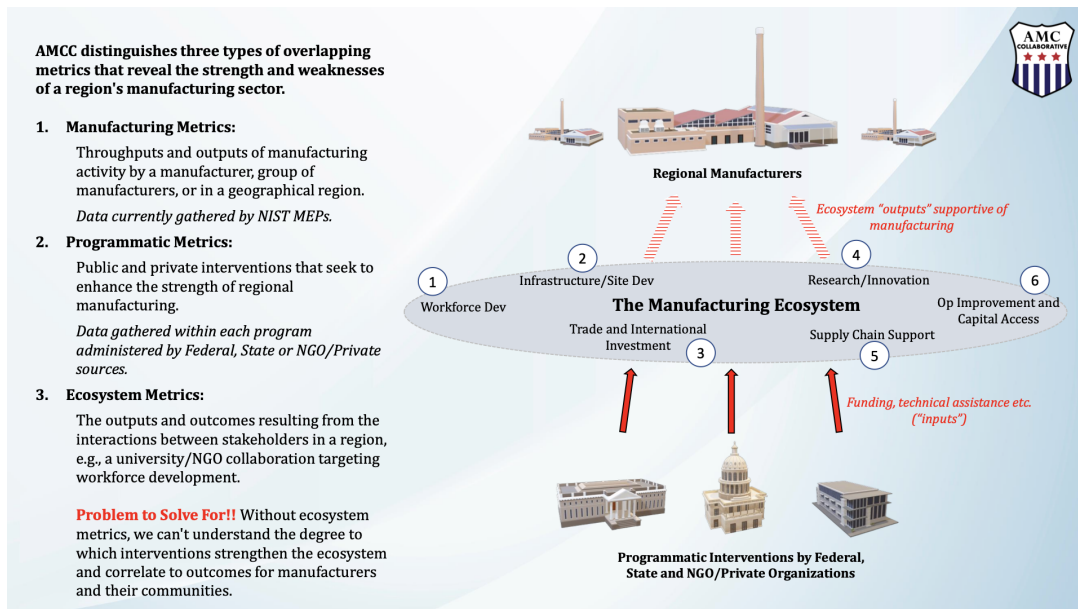


Figure 1: AMCC image identifying the six components of regional manufacturing ecosystem stakeholders and how those components relate to two other overlapping types of metrics.

The success of the American project depends upon its manufacturing cornerstone to be strong and continuously improving. Since our manufacturers' success depends on regional ecosystems of support to thrive, those ecosystem stakeholders and interventions need to be better understood, and measured so that we can form collaborations and interventions that produce increasingly better outcomes.

For more information on the MCEM project and how you and your stakeholders can add value, please contact Matt Bogoshian matt.bogoshian@amccmail.org and Nico Thomas at nico.thomas@nist.gov.